

Management Approach and Experience to Date with Monk Seals in the Main Hawaiian Islands

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1. Introduction

The Hawaiian monk seal was listed as endangered under the Endangered Species Act in 1976, 16 U.S.C. 1531 *et seq.* (ESA) (41 FR 33922). The species is endemic to the Hawaiian Archipelago, and is one of the most endangered marine mammals in the United States. The Hawaiian monk seal is also the only endangered marine mammal which exists wholly within the jurisdiction of the United States. In 1976, the species was also designated as depleted under the Marine Mammal Protection Act of 1972, 16 U.S.C. 1361 *et seq.* (MMPA), and its population status is considered to be below the optimum sustainable population. The Hawaiian monk seal Recovery Team (HMSRT) was formed pursuant to congressional charge of the ESA which directs recovery plan development and implementation. Accordingly, the HMSRT developed the 1983 Hawaiian Monk Seal Recovery Plan which reviewed and recommended research programs, and provided recommendations for future activities that would lead to recovery (Gilmartin, 1983). The focus of the 1983 recovery plan, its 1995 Amendment, and subsequent recommendations from the team focused on the monk seals in the Northwestern Hawaiian Islands (NWHI). During the 1999 HMSRT meeting, the Main Hawaiian Islands (MHI) were brought into the discussion to the extent that the HMSRT recommended that a site evaluation in the MHI be made to assess the efficacy of translocating additional males from the NWHI to the MHI (*See infra* part 2). Later that year, the HMSRT also recommended a baseline study on the MHI monk seals. In 2000, the HMSRT meeting agenda included topics on the MHI such as haul-outs, pupping, and monk seal exposure to dogs. In response to these issues, the HMSRT 2001 recommendations included the assessment, formation, and implementation of a management strategy for monk seals in the MHI.

Concurrently in 2001, the HMSRT was reformed and reconstituted by NOAA Fisheries. New Terms of Reference for the team were penned, and the team was charged with the initial duty of drafting a revised recovery plan. The new recovery plan is currently being written, but one addition to the revised plan will be an added focus on monk seals and their management in the MHI. This paper presents a summary of the experience to date with management issues regarding monk seals in the MHI, with a focus on these activities over the last few years. This summary includes translocation of monk seals to and within the MHI; the response to haul-outs, pupping events, and injured and out of habitat animals; consultation practice and recommendations for federal actions; and response to oil and hazardous materials spills.

When monk seals are observed in the MHI a primary concern is to ensure that the the animals are not harassed. The prohibitions in both the ESA and MMPA do not allow take without authorization or permit¹. Section 13(13) of the MMPA prohibits the harassment of marine

¹Limited exceptions exist for taking without prior authorization. For instance, see ' 101(a)(4)(A) and ' 109(h) of the MMPA.

mammals. Section 3(18)(A) of the MMPA defines harassment as Any act of pursuit, torment or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A Harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment). To implement the ESA and MMPA, NOAA Fisheries has developed recommended viewing guidelines to educate the general public on how to responsibly view marine mammals in the wild and avoid harassing them. The guidelines establish minimum approach distances and viewing etiquette.² Unfortunately, harassment to wild marine mammals, including disturbance, both incidental and directed toward monk seals, continues. NOAA Fisheries concluded January 30, 2002, that the continued take of marine mammals in the wild may warrant the development of a proposed rule to prevent harassment from human activities (67 FR 4379). Consideration of deviation from this policy direction should consider the implications to the standing policy and efforts nationwide to implement a no-harassment campaign.

2. The 1994 Translocation from the NWHI to the Main Hawaiian Islands

²NOAA Fisheries Regional Wildlife Viewing Guidelines for Marine Mammals are available on line at: http://www.nmfs.noaa.gov/prot_res/MMWatch/MMViewing.html.

Historically, both science and management of the Hawaiian monk seal (monk seal) have focused on the NWHI. A total of 40 adult male seals have been taken from various locations in the NWHI. Of these, 21 seals removed from the Laysan in the NWHI were translocated to the MHI in 1994. The goal of these and the other removals was to decrease male aggression against females, juveniles, and pups, thereby increasing the survival rates of these classes³. Male seals that were either observed participating in mobbing behavior or fit a behavioral profile known to match male mobbers, were selected for removal. The seals were captured, transported, and deposited at various locations ranging from the tip of South Point, Hawaii to the northern end of Kauai. The translocation was later announced to the public in a press release which explained the removals were necessary to prevent attacks by males on females at Laysan. In the explanation to the public, NOAA cited incidental benefits to an increased presence of seals in the MHI. These benefits included having more seal births and more opportunities for the public to see seals in the main islands (NOAA SWFSC, 1994). Although there has been no systematic sighting effort for the 21 adult males translocated to the MHI, the most recent sighting was made at Salt Pond City and County Beach Park, Kauai in April, 2001.⁴

While the HMSRT has recommended against additional translocations within the NWHI, the HMSRT has not precluded the idea of recommending future translocations to the MHI. If translocation to the MHI is again attempted, sufficient prior outreach and education to the state and local governments and public would be necessary to gauge receptivity to such plans.

3. Haul-Outs, Pupping and Distressed Seals in the Main Hawaiian Islands

Haul-outs, pupping, and seals in distress occur with regularity in the MHI. Each type of event requires a different management strategy, with responders having expertise and experience corresponding to the task at hand. For instance, regular haul-outs may be handled by those with training, experience, and knowledge and willingness to abide by the laws that prohibit human interaction with protected species. On the other hand, veterinarians with marine mammal/monk seal expertise are required to appropriately respond to monk seals that are injured or in distress. A combination of biologist, veterinarian, management, and trained personnel are necessary to

³Of the total 40 monk seals that were removed from the NWHI, 32 were translocated to locations distant from the site where the attacks had occurred (21 were moved to the MHI in 1994 and 11 were moved to Johnston Atoll (9 in 1984 and 2 in 1998)); 5 were placed into permanent captivity; 2 died while being held in temporary pens for translocation, and 1 was euthanized. The seals translocated to Johnston Atoll have not been observed since. Two of five seals which have been translocated from French Frigate Shoals to Kure Atoll have been observed alive at Kure as of 1999.

⁴A monk seal with a red tag # 4A0 was reported acting aggressively toward another monk seal (Freeman, pers. comm., 2001). That tag number was confirmed by NMFS to be the tag number of an adult monk seal relocated from Laysan in 1994 (Johannos, pers. comm., 2001).

successfully manage a pupping event in a public area. Below is a short description of the management strategies employed by NOAA Fisheries for these types of events. Currently, these events are managed according to the ESA, MMPA, and their implementing regulations as well as the guidelines and policies issued by NOAA to prevent human interaction with wild marine mammals (*See supra* at part 1) and to promote the recovery of monk seals.

4. Haul-Outs in the Main Hawaiian Islands

Monk seals regularly haul out on shore to rest and sleep. Some seals stay ashore for hours a day or during the night, and often the same animal will use the same area for consecutive days, or even weeks at a time. If molting, a monk seal may stay ashore for days at a time. Often, the monk seals hauled out on beaches are viewed by tourists and residents who are unfamiliar with the take prohibitions and/or the normal behavior of monk seals. For at least the past three years, NOAA has received numerous reports of *Astranded* monk seals. Some people report that, to help the animal, they or another person have attempted to haze the animal back into the water. Most often, the animal reported is not in distress, rather it is exhibiting normal haul-out behavior. Another common occurrence is a person approaching too closely to take photographs of the seal. When NOAA Fisheries receives a call about a monk seal, confirmation by a public official or trained volunteer is sought to confirm the needs for an adequate response. If the situation is confirmed as a haul-out and in a more remote location, then the event is recorded and the monk seal is left alone. If the haul-out is in an area of high public utilization, then available staff and/or volunteers are dispatched to the scene to secure a perimeter and conduct outreach. NOAA Fisheries Office of Law Enforcement is also notified regarding the situation, as is the Department of Land and Natural Resources, Division of Conservation and Resources Enforcement.

Some people have intentionally provoked and/or injured monk seals in the MHI. For instance, one female monk seal was intentionally harassed when a resident threw coconuts at it (Henderson, pers. comm., 2001)⁵. That offender was sentenced in state court to 100 hours of community service and assessed a fine of \$50.00 (Monachus Guardian 1999). Another resident was convicted in the U.S. District Court for the district of Hawaii for killing a monk seal which he intended to eat⁶. Dogs pose an additional threat to monk seals. On Kauai, two monk seals have been reported to have been bitten by dogs (Honda, pers. comm., 2001; Johannos, pers. comm., 2002). Whenever there is any indication in any report received regarding harassment by people, dogs, or other offence, the enforcement authorities are notified.

It is reasonable to assume that these human and dog interactions will increase as monk seal

⁵United States v. Kaneholani, 773 F.Supp. 1393, (D. Haw.) 1990, *aff'd*, 945 F.2d 254 (9th Cir. 1991).

⁶ Defendant was charged with knowingly taking and possessing parts of a monk seal in violation of 16 U.S.C. ' 1538 (a) (1) (B) and (G) and 50 C.F.R. ' 222.21.

haul-outs increase in the MHI (Ragen, 1999). Disturbance to monk seals may result in modified behavior making them more susceptible to predators when forced to enter the water or causing an unnecessary expenditure of energy required for thermal homeostasis or catching prey. Young pups forced into the water may lack strong swimming skills and be susceptible to strong sea conditions.

Recently, NOAA Fisheries has worked with the media (print and television) to inform the public about the normal behavior of monk seals, the prohibitions against harassment, and the consequences to the individual animals and the species if harassment continues. NOAA Fisheries, together with its collaborators, NOAA's National Ocean Services, and the State of Hawaii, has published and distributed thousands of brochures with protected species viewing guidelines. Additionally, as part of the annual multi-island Ocean Users Workshops hosted by the Hawaiian Islands Humpback Whale National Marine Sanctuary, the Pacific Islands Area Office (PIAO) has delivered the message of protection and NOAA viewing guidelines to the community and commercial tour operators. NOAA Fisheries has also worked with Watchable Wildlife, Inc.⁷ to produce signs which inform people that dogs should be kept away from monk seals.

NOAA staff available to respond to haul-out sites has been less than regular. In recent years, available staff in Honolulu have been assigned to haul-out sites when the area is in a highly public area. For instance, response to a surprise haul-out in the midst of Easter weekend crowds at Sandy Beach, a popular surfing beach on the southeast shore of Oahu, was managed by community volunteers, lifeguards, and volunteer NOAA staff. Additionally, NOAA Fisheries Office of Law Enforcement and the PIAO Protected Species Program met with volunteers and provided supplies such as signs and posts for the efforts. The lifeguards at Sandy Beach store a cache of signs and posts on site. On other islands, the catch-as-catch-can response to haul-outs is similar, with the State of Hawaii volunteers providing the main response on both Maui and Kauai. PIAO has supplied materials to the State of Hawaii, Department of Land and Natural Resources, Division of Aquatic Resources for distribution to appropriate personnel. For these and other reasons discussed below, it is important that any management option designed to discourage haul-out behavior at a particular site also allow for opportunities to haul out at similarly favorable sites (sans people/dogs) elsewhere.

5. Pupping

Pupping in the main islands has been recorded since 1962, albeit in recent years there have been more pups observed than before. Pupping in areas frequented by humans and pets requires management of the site beyond that normally associated with haul-outs. Lack of a secure safety zone for the mother-pup pair may result in the mother seal abandoning her pup. Such a result would not bring the species closer to recovery, and would probably require NOAA to take the

⁷Watchable Wildlife, Inc. is a non profit organization that cooperates with community, state, and federal programs to promote responsible wildlife viewing.

pup into captivity. Lack of a secure zone also potentially puts the public at risk from a mother seal who may become aggressive towards intruders as she seeks to protect her pup. In the NWHI, at Kure atoll, the disturbance of monk seals by humans and dogs has been cited as the critical factor in the abandonment of preferred pupping habitat. Monk seals moved to suboptimal sites where pup mortality was high. (Gerrodette and Gilmartin 1990).

Gerrodette and Gilmartin (1990) give several probable reasons why maintenance of preferred pupping habitat is essential to the survival of monk seal pups. The authors explain that pupping sites adjacent to calm nearshore waters avail the pups, which are weak swimmers, of opportunities to develop swimming skills.⁸ Another reason to maintain preferred pupping habitat is that shallow nearshore waters may offer some protection from sharks which prey on monk seal pups. The health of the pup is also of concern, as disturbance to the mother may shorten nursing intervals, thereby decreasing the energy transfer from mother to pup. After weaning a pup must learn to forage on its own and is dependent for several months upon energy reserves gained during the nursing period. In short, fatter pups seem to survive better than other pups. Given these suppositions NOAA Fisheries management strategy has sought to collaborate with state and local governments and the public to maintain the coerture for mother-pup pairs (Craig and Ragen, 1999).

6. Management Response to Pupping

Of the 36 recorded pups born in the MHI since 1962, there have been five high profile pupping events. All five were successfully weaned and translocated to remote areas to avoid habituation of the pups to humans. The first pup birth NOAA Fisheries has in its record for the MHI occurred in 1991 at Haena, Kauai. The pup, a female, was successfully weaned, but quickly became habituated to human presence. After reports that the seal was approaching people repeatedly and had bitten one and perhaps more people, NOAA translocated the pup to Kauai's south shore. Another translocation to Nihoa was necessary after the seal was reported to have interacted with divers and followed power boats in the Kukuia Harbor (Honolulu Advertiser, 1991). There was a later report that the seal was killed by a boat propellor (NMFS, unpub. data). Other high profile births include a seal born on the north shore of Oahu (1991), the south shore of Kauai at Poipu in 2000, and again at Poipu in 2001. NOAA's response to these births was similar in all three events. In all instances, NOAA personnel were concerned with human interaction leading to habituation, with behavioral implications to the seals and, potentially, to humans. Also, the presence of dogs on the beach and, in some cases, fishing

⁸ Pups have been observed swept out to sea and not returning. Some pups have been rescued by researchers, including the one born on the north shore of Oahu in 1991 (Henderson pers. com., 2002).

activities, prompted NOAA to either secure or to recommend that local authorities secure a zone around the mother-pup pair until weaning. In two instances, 1991 and 2000, water sports events were rescheduled or relocated to avoid potential disturbance to the seals.

In 2000, NOAA, in cooperation with the State of Hawaii, closed the area necessary for the successful weaning of the Poipu pup. This action was similar to that taken during the 1991 pupping, which closed a safe zone around the mother and pup on the north shore of Oahu until the pup was translocated to Kure Atoll. In 2001, NOAA, the County of Kauai and the State of Hawaii met and agreed on protocols⁹ for the management of the safe zone around the mother and pup. The mother seal began to exhibit signs of distress and increased aggression. In fact, the Poipu 2001 mother seal traveled about 25 yards and bit a snorkeler, and on at least two other occasions she approached swimmers while vocalizing. NOAA recommended the closure of an area necessary for minimizing disturbance to the mother and pup. The County of Kauai, the State of Hawaii and NOAA collaborated to ensure the successful weaning of the pup. In the case of the 2000 and 2001 pupping events public reaction to the closure of the popular Poipu Beach area was mixed, and sometimes extreme. For instance, management concerns for the safety of biologists stationed at Poipu in 2000 in part determined the management strategies implemented during 2001. Although consistent and periodic checks were performed throughout the night hours by biologists, the decision was made not to station biologists continuously onsite throughout the night after a death threat was made to a biologist (and the seal) during the 2000 pupping events. However, overall the communities affected by the five pupping events were supportive and played active roles as volunteers, monitors, and outreach educators.

In addition to public acceptance of a temporary area closure, there are many factors to be considered in implementing a safe zone around a mother-pup pair. For instance, in 2000 the mother seal rolled under a fence meant to contain the pair resulting in the mother becoming separated from the pup. In 2001 the mother became entangled in a float line, which became wrapped 3 times around her neck and body. This float line that was placed in the water as a physical boundary to separate swimmers from seals. Such boundaries, both in 2000 and 2001, proved to be attractants and potential/real entanglement hazards for the seals. Further investigation is needed into techniques to construct fences which are sturdy in the water and waves, movable, durable, and appropriate in the surrounding environment.

All five high profile pups were translocated to more remote locations. Translocation to remote areas was believed to be the most effective method of reducing the likelihood that the pups would become habituated to humans, bitten by dogs, or caught in fishing gear. Currently, however, there is some question to the effectiveness of translocation in keeping the seals separate from potential perils such as dogs and fishing gear. For instance, one pup in the remote

⁹These protocols have been revised several times by representatives of the community, the County of Kauai, the State of Hawaii, and NOAA Fisheries. Also, a draft Communications Plan has been developed to ensure that a consistent and appropriate message is delivered to the public by all entities involved in responding to a pupping event.

Kau district of the island of Hawaii (2001) was hooked twice, and another pup born in a remote location on Molokai (2001) was also hooked. Both pups were treated by veterinarians as part of NOAA's Marine Mammal Stranding and Health Response Program. In two other instances, dogs reportedly attacked monk seals on remote beaches. A pup born on Mahaulepu, Kauai in 2000, was attacked by a pet dog, and another pup on the north shore of Kauai was bitten (and subsequently treated by a veterinarian). Another non high profile pup born at the Pacific Missile Range Facility on Kauai, a fairly well protected beach area, was reported dead in 1999. There was an anonymous and unconfirmed report that the pup may have been hit by a zodiac-type vessel employed in the tourist industry (Honolulu Star-Bulletin, 2000). Resightings of the five monk seals relocated from sites in the MHI are included in the table below.

Hawaiian Monk Seals Pups Born and Translocated, Main Hawaiian Islands (NOAA PIAO, unpub. data, 2002)

year pup born	location	post translocation observations
1991	Haena, Kauai	translocated to south shore, then to Nihoa. Sighted in 1994 and later reported killed by boat propellor
1991	North Shore, Oahu	translocated to Kure, NWHI. Last observed alive at Kure, 2002
2000	Poipu, Kauai	Translocated to north shore of Kauai. Last observed at Kauai, 2001.
2000	Mahaulepu, Kauai	Translocated to north shore of Kauai. Last observed in Kailua Bay, Oahu, 2002.
2001	Poipu, Kauai	Translocated to north shore of Kauai. Last observed alive at Kauai, 2002

7. Seals in Distress: Marine Mammal Stranding and Health Response

NOAA implements its Marine Mammal Stranding and Health Response Program through its regional offices. In Hawaii, the PIAO has had the primary authority to coordinate responses to stranded or injured marine mammals, including monk seals. Reports of injured or distressed monk seals are confirmed by NOAA and/or NOAA's cooperating partners such as the Department of Land and Natural Resources, and county officials such as the police and life guards. Upon confirmation, a NOAA coordinated team of biologists and veterinarians and others with extensive experience with monk seals are dispatched to the site to capture and treat the seal.

NOAA biologists and contract veterinarians have responded to 15 seals (including one elephant seal) in distress during the last three years. During this time period, there have been eight hookings/entanglements that have required NOAA to respond with a team of monk seal specialists. Prior to 2000, there were only 4 recorded responses to distressed seals in the MHI.

Most of the responses have been to de-hook a seal from fishing gear and/or line.

Hawaiian Monk Seals Stranding and Health Response in the Main Hawaiian Islands 2000 - September 2002,
(NOAA PIAO, unpub. data, 2002)

	CONDITION	AGE CLASS	ISLAND	RESPONSE
2002	OUT OF HABITAT	SUBADULT Elephant Seal	BIG ISLAND	REMOVED AND TRANSPORTED TO MARINE MAMMAL CENTER, CALIFORNIA
	DEAD	SUBADULT	OAHU	NECROPSY BY VETERINARIAN
	USCG Reported DEAD	SUBADULT	OAHU	UNABLE TO RELOCATE
	DEAD	PUP	BIG ISLAND	NECROPSY BY VETERINARIAN
	DEAD	FETUS	KAUAI	NECROPSY BY VETERINARIAN
	HOKED	ADULT	OAHU	HOKED REMOVED BY VETERINARIAN
	Reported INJURED	SUBADULT	BIG ISLAND	UNABLE TO RELOCATE ANIMAL
	ENTANGLED	SUBADULT	OAHU	DISENTANGLED FROM GILLNET
	OUT OF HABITAT	ADULT	OAHU	ANIMAL DEPARTED AREA
2001	Reported HOKED	SUBADULT	BIG ISLAND	UNABLE TO RELOCATE
	Reported HOKED	SUBADULT	BIG ISLAND	UNABLE TO RELOCATE
	HOKED	JUVENILE	KAUAI	HOKED REMOVED BY RESPONDERS
	Reported HOKED	ADULT	KAHOOLAWE	UNABLE TO RELOCATE
2000	HOKED	ADULT	KAUAI	HOKED REMOVED BY VETERINARIAN
	HOKED	SUBADULT	MOLOKAI	HOKED REMOVED BY VETERINARIAN

8. Out of Habitat Elephant Seal and Monk Seals

In January of 2002, a hauled-out, but potentially injured monk seal was reported to the PIAO. The seal was on the Kona side of the island of Hawaii, and was described as shark bitten. PIAO and the State of Hawaii Department of Land and Natural Resources, Division of Conservation

and Resources Enforcement Kona Office cooperated to keep track of the seal. After obtaining digital photos of the seal, biologists identified the animal as an elephant seal, not a monk seal. NOAA Fisheries determined that the animal needed to be removed immediately to minimize the potential spread of parasites and diseases to the monk seal population. Through a series of rapid and cooperative efforts, the elephant seal was removed from the Big Island, flown by the United States Coast Guard to Honolulu, and then placed on a Hawaiian Airlines flight to San Francisco. The elephant seal was rehabilitated at the Marine Mammal Center¹⁰ where it underwent medical evaluation and treatment, and in March 2002, the seal was released in northern California.

In 2002, a monk seal was reported to be hauled-out in a fresh water stream on the coast of Oahu. NOAA Fisheries responded to assess the situation. Seals in fresh water raise concerns regarding the transmittal of parasites such as toxoplasmosis and leptospirosis which may be present in fresh water to the monk seals. Fortunately this seal left the area. However, management concerns persist regarding monk seals which enter fresh water streams and rivers.

9. Oil and Hazardous Materials Spills Response

In April, 1999, a longline vessel (*F/V Van Loi*) grounded on a reef off of Kapaa, Kauai. The vessel had 16,000 gallons of diesel fuel onboard and was carrying 3 tons of bait and gear. All fuel, bait, and gear (including monofilament line and hooks) went overboard into the marine environment. Monk seals were attracted to the frozen bait that spilled overboard, and were swimming amongst the loose fishing gear. The potential for monk seals (and other marine wildlife) to become entangled or hooked prompted NOAA Fisheries to recommend to the USCG that all efforts be made to extract the gear from the environment. Fortunately, no adverse interaction with fuel or gear was reported by wildlife resource managers on scene.

In August 1998, Tesoro Hawaii Corporation fuel operations resulted in a spill of about 5,000 gallons of bunker fuel off of Barber's Point, leeward Oahu. The waters and shoreline of Kauai were affected, and oiled monk seals were reported in the area. During September 1998, up to 5 oiled monk seals were observed. One monk seal had its entire oral mucosa coated with red,

¹⁰ The Marine Mammal Center located in Tiburon, California, is a private, non-profit rescue and rehabilitation hospital. The center is staffed with veterinarians, registered veterinary technicians, biologists, and researchers as well as trained volunteers.

blood-like fluid. This monk seal was later resighted and exhibited signs of a respiratory infection. Another monk seal exhibited Agagging behavior@ As there were no physical exams conducted on the animals observed, the wildlife resource agencies could not reach a conclusion about the effects of the oil on the monk seals (Natural Resources Trustees, 2000).

Currently, NOAA Fisheries has at least 6 people trained in the oil spill/Hazardous materials response who may participate in the wildlife response division. NOAA Fisheries is also working with its partners to provide more training for a rapid and thorough evaluation, rescue, and treatment response to monk seals in the event of an oil/hazardous material spill.

10. Consultations and Terms that Protect Monk Seals

The PIAO routinely conducts section 7 consultations under the ESA. As appropriate, NOAA Fisheries provides recommendations/conditions during the informal consultation process. These conditions are project specific, but may include a variety of measures designed to negate the effects of projects on monks seals and their habitat. Examples of these recommendations/conditions include:

1. Any activities that may cause disturbance of monk seals will be avoided while performing this project. A buffer zone will be created and maintained by construction of a fence at a minimum distance of 150 feet around construction activities (if the activities are on a shoreline used by monk seals).
2. If a monk seal enters the construction area, project work in that area will cease until the animal voluntarily transits the area.
3. A protected species monitoring plan for monk seals will be devised by the project in collaboration with NOAA Fisheries biologists and approved by NOAA Fisheries. For instance, concurrence for construction projects in areas monk seals use may be conditioned upon the following measures being incorporated into the project: 1) training of personnel; 2) criteria for recognizing potential disturbance; 3) phone trees for unexpected events and 4) reporting requirements.
4. All personnel involved in the project on-site will be briefed in detail on the laws and guidelines for the protection of monk seals.

The PIAO also routinely submits comments to project administrators under the National Environmental Policy Act of 1969 (NEPA). Whenever appropriate, NOAA Fisheries recommends activities that would help to conserve and promote the recovery of the monk seal. For instance, the Marine Corps Base Hawaii conducts new arrival orientation and has agreed to add marine protected species information to the orientation agenda. It is hoped that this orientation will help Hawaii-s temporary residents to become familiar with the species at risk and the laws that protect them.

11. Conclusion

In sum, the management of monk seals in the MHI has sought to ensure the protection of the animals according to the existing legal mandates and federal guidelines. As the search for the appropriate management response to the presence of monk seals in the MHI continues, it is appropriate for managers, scientists, and the public to consider the increase of monk seals in the MHI an opportunity rather than a problem. It is necessary for all involved to consider what constitutes the potential to injure monk seals, considering the possibility that some management options may be proximate cause to injury in both the short and long term. For instance, will harassment of seals off crowded beaches displace seals to potentially more dangerous remote areas? Also, if a decision is made to move or haze animals, decisions must also include who may harass, how to harass, and when not to harass. These decisions may be necessary daily for managers and some consideration of the confusion such practices may bring to the public. All involved must consider how to make these decisions and how to engage in public outreach and education so that the public understands and accepts such a tactic for an endangered species.

12. References

67 FR 4379 (Jan. 30, 2002) Preventing Harassment From Human Activities Directed at Marine Mammals in the Wild

Craig, M.P. and T.J. Ragen. 1999. Body Size, Survival, and Decline of Juvenile Hawaiian Monk Seals, *Monachus schauinslandi*. Mar.Mam. Sci. 15(3):786-809.

Gerrodette, T., and W.G. Gilmartin. 1990. Demographic consequences of changes hauling patterns in the Hawaiian monk seal. Conserv. Biol. 4:423-430.

Gilmartin, W. G. In cooperation with Hawaiian monk seal recovery team. 1983. Recovery plan for the Hawaiian monk seal, *Monachus schauinslandi*. NOAA NMFS SWFSC HL

Hawaiian Monk Seal Recovery Team. 1995. Recovery Action Recommendations for the Hawaiian Monk Seal FY-1996 through FY-1998. Pp.18.

Hawaiian Monk Seal Recovery Team. 2001. Hawaiian Monk Seal Recovery Team Meeting March 19-21, 2001 (Summary Recommendations attachment to Letter to R. Lent, March 26, 2001). Pp. 8.

Natural Resource Trustees. 2000. Final Restoration Plan and Environmental Assessment for the August 24, 1998 Tesoro Hawaii Oil Spill (Oahu and Kauai, Hawaii). Prepared by: National Oceanic and Atmospheric Administration, U.S. Department of the Interior, and State of Hawaii. 90 pp.

NOAA Fisheries Southwest Fisheries Science Center News Release, August 22, 1994, [Endangered Male Monk Seals Relocated to the Main Hawaiian Islands](#)

Ragen, T. J. 1999. Human Activities Affecting the Population Trends of the Hawaiian Monk Seal. American Fisheries Society Symposium 23:183-194.

Sommer, A. *Baby Monk Seal Probably Killed by Boat*. Honolulu Star-Bulletin. Jan 6, 2000

TenBruggencate, J. *Playful seal pup to be moved to even more remote beach*. Honolulu Advertiser, 1991.

The Monachus Guardian. A No Justice Seen for Q39... Outcome of the Court Case Now Sparks Wider Debate@ <http://www.monachus.org/mguard03/03hawnew.htm> (May 1999).

Van Toorenburg, R.A., W.G. Gilmartin, and J.R. Henderson. 1993. Composition of the Hawaiian Monk Seal Population at Kure Atoll, 1990. Pacific Science 3:211-214.